

CLAIMS

What is claimed is:

- 1 1. A method to produce visual effect on a display, the method comprising:
2 receiving a first time length; and
3 adjusting, according to an elapsed time, color correction parameters a
4 plurality of times during a time period of the first length.

- 1 2. A method as in claim 1, wherein the color correction parameters comprise at
2 least one look up table for gamma correction; and wherein said elapsed time
3 is measured by a real time clock which measures time during production of
4 the visual effect.

- 1 3. A method as in claim 2, wherein the at least one look up table is adjusted to
2 blend input color signals with a color; and wherein the input color signals is
3 blended with the color according to the elapsed time.

- 1 4. A method as in claim 3, wherein a weight on the color to blend the input
2 color signals with the color changes faster near a middle of the time period
3 than at one of:
4 a) a beginning of the time period; and
5 b) an end of the time period.

- 1 5. A method as in claim 4, wherein the weight is determined from a function of
2 the elapsed time.
- 1 6. A method as in claim 1, further comprising:
2 performing color correction according to the color correction parameters.
- 1 7. A method as in claim 1, wherein said adjusting the color correction
2 parameters comprises:
3 instructing a graphics processing unit (GPU) to adjust the color correction
4 parameters according to the elapsed time.
- 1 8. A method as in claim 1, wherein a frequency for said adjusting the color
2 correction parameters is determined according to a refreshing frequency for
3 displaying, on the display, input color signals corrected by the color
4 correction parameters.
- 1 9. A method as in claim 8, wherein the frequency for said adjusting the color
2 correction parameters is substantially equal to the refreshing frequency.
- 1 10. A method as in claim 1, wherein said adjusting the color correction
2 parameters comprises:
3 determining a first value of the elapsed time;

4 determining first values of the color correction parameters according to the
5 first value of the elapsed time;
6 determining a second value of the elapsed time; and
7 determining second values of the color correction parameters according to
8 the second value of the elapsed time.

1 11. A method as in claim 10, wherein said adjusting the color correction
2 parameters is performed by an operating system of a data processing system
3 according to a task scheduler in response to a request from an application
4 program running on the data processing system.

1 12. A method as in claim 11, wherein the application program is allowed to
2 execute operations during the time period.

1 13. A method as in claim 11, wherein the application program is not allowed to
2 execute operations until the request is fulfilled.

1 14. A method as in claim 1, further comprising:
2 restoring, after the time period, the color correction parameters to values that
3 the color correction parameters have before the time period.

1 15. A method as in claim 14, wherein said restoring is performed on expiration
2 of a reservation time period, within which said adjusting the color correction
3 parameters is performed.

1 16. A method as in claim 1, further comprising:
2 receiving a second time length from a second application program; and
3 adjusting, according to an elapsed time, the color correction parameters a
4 plurality of times during a time period of the second length in
5 response to a request from the second application program;
6 wherein the first time length is received from a first application program; and
7 wherein said adjusting the color correction parameters during the time period
8 of the first length is in response to a request from the first application
9 program.

1 17. A method as in claim 1, further comprising:
2 receiving a request for a reservation from a first application program; and
3 granting a first reservation to the first application program in response to a
4 determination that there is no pending reservation;
5 wherein the first time length is received from the first application program;
6 and

7 wherein said adjusting the color correction parameters is in response to a
8 request from the first application program that is in possess of the
9 first reservation.

1 18. A method as in claim 17, wherein said adjusting the color correction
2 parameters is performed after a determination that the request from the first
3 application program is received within a reservation time period for the first
4 reservation.

1 19. A method as in claim 18, further comprising:
2 restoring, upon expiration of the reservation, the color correction parameters
3 to values that the color correction parameters have before the
4 reservation.

1 20. A machine readable medium containing executable computer program
2 instructions which when executed by a data processing system cause said
3 system to perform a method to produce visual effect on a display of the data
4 processing system, the method comprising:
5 receiving a first time length; and
6 adjusting, according to an elapsed time, color correction parameters a
7 plurality of times during a time period of the first length.

1 21. A medium as in claim 20, wherein the color correction parameters comprise
2 at least one look up table for gamma correction; and wherein said elapsed
3 time is measured by a real time clock which measures time during
4 production of the visual effect.

1 22. A medium as in claim 21, wherein the at least one look up table is adjusted to
2 blend input color signals with a color; and wherein the input color signals is
3 blended with the color according to the elapsed time.

1 23. A medium as in claim 22, wherein a weight on the color to blend the input
2 color signals with the color changes faster near a middle of the time period
3 than at one of:
4 a) a beginning of the time period; and
5 b) an end of the time period.

1 24. A medium as in claim 23, wherein the weight is determined from a function
2 of the elapsed time.

1 25. A medium as in claim 20, wherein the method further comprises:
2 performing color correction according to the color correction parameters.

- 1 26. A medium as in claim 20, wherein said adjusting the color correction
2 parameters comprises:
3 instructing a graphics processing unit (GPU) to adjust the color correction
4 parameters according to the elapsed time.
- 1 27. A medium as in claim 20, wherein a frequency for said adjusting the color
2 correction parameters is determined according to a refreshing frequency for
3 displaying, on the display, input color signals corrected by the color
4 correction parameters.
- 1 28. A medium as in claim 27, wherein the frequency for said adjusting the color
2 correction parameters is substantially equal to the refreshing frequency.
- 1 29. A medium as in claim 20, wherein said adjusting the color correction
2 parameters comprises:
3 determining a first value of the elapsed time;
4 determining first values of the color correction parameters according to the
5 first value of the elapsed time;
6 determining a second value of the elapsed time; and
7 determining second values of the color correction parameters according to
8 the second value of the elapsed time.

1 30. A medium as in claim 29, wherein said adjusting the color correction
2 parameters is performed by an operating system of a data processing system
3 according to a task scheduler in response to a request from an application
4 program running on the data processing system.

1 31. A medium as in claim 30, wherein the application program is allowed to
2 execute operations during the time period.

1 32. A medium as in claim 30, wherein the application program is not allowed to
2 execute operations until the request is fulfilled.

1 33. A medium as in claim 20, wherein the method further comprises:
2 restoring, after the time period, the color correction parameters to values that
3 the color correction parameters have before the time period.

1 34. A medium as in claim 33, wherein said restoring is performed on expiration
2 of a reservation time period, within which said adjusting the color correction
3 parameters is performed.

1 35. A medium as in claim 20, wherein the method further comprises:
2 receiving a second time length from a second application program; and

3 adjusting, according to an elapsed time, the color correction parameters a
4 plurality of times during a time period of the second length in
5 response to a request from the second application program;
6 wherein the first time length is received from a first application program; and
7 wherein said adjusting the color correction parameters during the time period
8 of the first length is in response to a request from the first application
9 program.

1 36. A medium as in claim 20, wherein the method further comprises:
2 receiving a request for a reservation from a first application program; and
3 granting a first reservation to the first application program in response to a
4 determination that there is no pending reservation;
5 wherein the first time length is received from the first application program;
6 and
7 wherein said adjusting the color correction parameters is in response to a
8 request from the first application program that is in possess of the
9 first reservation.

1 37. A medium as in claim 36, wherein said adjusting the color correction
2 parameters is performed after a determination that the request from the first
3 application program is received within a reservation time period for the first
4 reservation.

- 1 38. A medium as in claim 37, wherein the method further comprises:
2 restoring, upon expiration of the reservation, the color correction parameters
3 to values that the color correction parameters have before the
4 reservation.
- 1 39. A data processing system to produce visual effect on a display device, the
2 data processing system comprising:
3 means for receiving a first time length; and
4 means for adjusting, according to an elapsed time, color correction
5 parameters a plurality of times during a time period of the first length.
- 1 40. A data processing system as in claim 39, wherein the color correction
2 parameters comprise at least one look up table for gamma correction; and
3 wherein said elapsed time is measured by a real time clock which measures
4 time during production of the visual effect.
- 1 41. A data processing system as in claim 40, wherein the at least one look up
2 table is adjusted to blend input color signals with a color; and wherein the
3 input color signals is blended with the color according to the elapsed time.

1 42. A data processing system as in claim 41, wherein a weight on the color to
2 blend the input color signals with the color changes faster near a middle of
3 the time period than at one of:
4 a) a beginning of the time period; and
5 b) an end of the time period.

1 43. A data processing system as in claim 42, wherein the weight is determined
2 from a function of the elapsed time.

1 44. A data processing system as in claim 39, further comprising:
2 means for performing color correction according to the color correction
3 parameters.

1 45. A data processing system as in claim 39, wherein said means for adjusting
2 the color correction parameters comprises:
3 means for instructing a graphics processing unit (GPU) to adjust the color
4 correction parameters according to the elapsed time.

1 46. A data processing system as in claim 39, wherein a frequency for adjusting
2 the color correction parameters is determined according to a refreshing
3 frequency for displaying, on the display device, input color signals corrected
4 by the color correction parameters.

1 47. A data processing system as in claim 46, wherein the frequency for adjusting
2 the color correction parameters is substantially equal to the refreshing
3 frequency.

1 48. A data processing system as in claim 39, wherein said means for adjusting
2 the color correction parameters comprises:
3 means for determining a first value of the elapsed time;
4 means for determining first values of the color correction parameters
5 according to the first value of the elapsed time;
6 means for determining a second value of the elapsed time; and
7 means for determining second values of the color correction parameters
8 according to the second value of the elapsed time.

1 49. A data processing system as in claim 48, wherein the color correction
2 parameters are adjusted by an operating system of a data processing system
3 according to a task scheduler in response to a request from an application
4 program running on the data processing system.

1 50. A data processing system as in claim 49, wherein the application program is
2 allowed to execute operations during the time period.

1 51. A data processing system as in claim 49, wherein the application program is
2 not allowed to execute operations until the request is fulfilled.

1 52. A data processing system as in claim 39, further comprising:
2 means for restoring, after the time period, the color correction parameters to
3 values that the color correction parameters have before the time
4 period.

1 53. A data processing system as in claim 52, wherein the color correction
2 parameters are restored on expiration of a reservation time period, within
3 which said adjusting the color correction parameters is performed.

1 54. A data processing system as in claim 39, further comprising:
2 means for receiving a second time length from a second application program;
3 and
4 means for adjusting, according to an elapsed time, the color correction
5 parameters a plurality of times during a time period of the second
6 length in response to a request from the second application program;
7 wherein the first time length is received from a first application program; and
8 wherein the color correction parameters are adjusted during the time period
9 of the first length in response to a request from the first application
10 program.

1 55. A data processing system as in claim 39, further comprising:
2 means for receiving a request for a reservation from a first application
3 program; and
4 means for granting a first reservation to the first application program in
5 response to a determination that there is no pending reservation;
6 wherein the first time length is received from the first application program;
7 and
8 wherein the color correction parameters are adjusted in response to a request
9 from the first application program that is in possess of the first
10 reservation.

1 56. A data processing system as in claim 55, wherein the color correction
2 parameters are adjusted after a determination that the request from the first
3 application program is received within a reservation time period for the first
4 reservation.

1 57. A data processing system as in claim 56, further comprising:
2 means for restoring, upon expiration of the reservation, the color correction
3 parameters to values that the color correction parameters have before
4 the reservation.